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(54) Title: MICROARRAY OF THREE-DIMENSIONAL HETEROPOLYMER MICROSTRUCTURES AND METHOD THEREFOR

(57) Abstract: A microarray has a substrate and a plurality of three-dimensional microstructures formed on the substrate. Each of the three-dimensional microstructures is made with polymer material and has a plurality of reactive sites formed on its surface and interior pores. The polymer material is polymer gel or other porous polymer. The combination of three-dimensional microstructure and porous polymer material increases the surface area of the microstructure and density of the reactive sites on the surface of the microstructures. The higher density of reactive sites increases the luminescence, visibility or instrument detectability of the interaction between analytes and reactive microstructure sites on the microarray. A plurality of chemical groups are respectively attached to the reactive sites. The chemical groups each include at least one monomer. The chemical groups may have different chemical structures. A plurality of microchannels can be formed around the microstructures for isolation.